IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

PILOT ENERGY SOLUTIONS, L.L.C. Plaintiff, v. OXY USA INC. Defendant.	)))))))))))	CIVIL ACTION NO. 1:16-cv-00687-SS

Plaintiff's Reply Brief on Motion for Partial Summary Judgment

Oxy has offered no new facts to oppose summary judgment. Indeed, it concedes that our flow chart shows the "basic structure" of its Century Plant. Oxy Response at 6. Oxy's noninfringement arguments are instead addressed to the meaning of various terms in Pilot's patent: issues of law. See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). Because none of Oxy's legal contentions are sound, Pilot is entitled to partial summary judgment as to infringement.

A. The Rahmim Declaration Creates No Genuine Fact Issues.

The centerpiece of Oxy's opposition is the declaration of Dr. Rahmim. To explore whether that declaration created any **genuine** issue of fact, we took Dr. Rahmim's deposition earlier this week. The deposition was marked by an extraordinary series of refusals to respond to relevant questions. Those questions related both to the extent of Dr. Rahmim's knowledge, and to how he may have been coached by Oxy's counsel. Oxy's counsel was an active participant in this stonewalling, repeatedly instructing the witness not to answer. This exchange was typical:

Q In your preparation for this deposition, did you discuss with anyone how to answer questions regarding the second sentence of paragraph 12 of your declaration?

MR. QUARMBY: Same objection. You may ask him about paragraph 12, but you're asking him for attorney work product and protected information, and you will not do so.

I will instruct the witness not to answer.

THE WITNESS: I will not answer.

Exhibit A at 31.

It also developed that Dr. Rahmim knew little, if anything, about how the Century Plant actually operated, and had instead merely analyzed drawings that Oxy's counsel gave to him. When asked whether the drawings had anything to do with the actual plant, Oxy's counsel admitted that any answer by Dr. Rahmim would be "speculation." Dr. Rahmim followed up by refusing to provide any "yes" or "no" answer.

Q (By Mr. Tomlinson) Do you have a belief as to whether those documents reflect how the plant operates?

MR. QUARMBY: Objection. Calls for speculation.

You may answer.

THE WITNESS: My analysis and my declaration is based on review of these documents, including the blueprints, the Ortloff blueprints, the Mustang Oxy_Pilot blueprints that were provided to me. And what I -- my -- my opinion is actually in this -- in this declaration.

…

Q And you can't say that paragraph 24 relates in any way to how the plant operates, can you?

MR. QUARMBY: Objection. Mischaracterizes the witness's prior testimony.

You may answer.

THE WITNESS: Paragraph 24 is based on my analysis and understanding of the documents that were given to me, including the Ortloff documents and the Mustang Oxy_Pilot documents.

Q (By Mr. Tomlinson) But you can't connect it up with how the plant operates, can you?

MR. QUARMBY: Objection. Asked and answered.

You have asked the same question multiple times now. You have gotten the same answer. I am going to instruct the witness not to answer. This is badgering.

THE WITNESS: I will not answer.

Q (By Mr. Tomlinson) So it's quite possible that the way this plant operates is contradictory to paragraph 24, isn't it?

MR. QUARMBY: Objection to the extent it calls for speculation.

You may answer if you can.

THE WITNESS: My declaration is based on my analysis and review of the documents that were provided to me.

Exhibit A at 66-68.

While the Court would be well within its rights to strike Dr. Rahmim's declaration as sham, we believe the better course is simply to recognize that Dr. Rahmim has merely acted as a conduit or puppet for Oxy's lawyers. His refusal to respond to relevant questioning confirms that his declaration fails to create any genuine issue of material fact. And, as discussed in the sections that follow, nothing that Dr. Rahmim has said warrants a finding of non-infringement.

B. The Term "Light Hydrocarbon Stream" Does Not Require a Prior Separation from Heavier Hydrocarbons.

Oxy's first contention is that the term "light hydrocarbon stream," used in claim 1, means "a stream resulting from separation of a hydrocarbon feed stream into separate light and heavy hydrocarbon streams." Oxy Response at 11-12. Because the relevant stream in Oxy's plant has not undergone such a separation, Oxy says it does not infringe claim 1. We disagree.

There is nothing within the words "light hydrocarbon stream" that can carry the baggage Oxy seeks to saddle them with. Indeed, Oxy concedes that "light hydrocarbons" are those with "relatively few carbon atoms per molecule." Oxy Response at 3. Based on the claim language alone, a "light hydrocarbon stream" is simply a stream that contains light hydrocarbons. That language does not require light hydrocarbons to have been separated from something else. Why search for any more complicated meaning?

To discern a further requirement of separation, Oxy asks the Court to look outside the language of the claim, and dig into the specification and drawings of Pilot's patent. These, Oxy says, show a process where such a separation occurs before a light hydrocarbon stream is created. Oxy Response at 4-6, 10. But the Federal Circuit has repeatedly rejected this mode of analysis. See, *e.g.*, *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) ("a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment").

Another reason why Oxy's construction is wrong is found in claim 2 of Pilot's patent, which has **not** been asserted against Oxy. Claim 2 refers to claim 1, and adds to what claim 1 requires. See 35 U.S.C. § 112(d). And claim 2 expressly adds the very separation step that Oxy claims is **already** present in claim 1:

> 2. The process of claim 1 wherein the hydrocarbon feed stream is separated into the light hydrocarbon stream and a heavy hydrocarbon stream.

Doc. 38-2 at 12, col. 18. If separation is already in claim 1, then why did claim 2 try to add the exact same requirement? The answer, of course, is that claim 1 imposes no such requirement, and Oxy's construction is wrong. See *Curtiss-Wright Flow Control v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed. Cir. 2006) ("reading an additional limitation from a dependent claim into an independent claim would not only make that additional limitation superfluous, it might render the dependent claim invalid"). Elsewhere in its response, Oxy pays tribute to the very same principle of "claim differentiation" that it ignores with regard to claims 1 and 2. Oxy Response at 19. While recognizing the principle's validity, Oxy simply has no answer as to why it should not be applied here.

Oxy does not deny that a gas stream flows into the demethanizer of its plant, and that the predominant hydrocarbon in that stream is methane, the lightest of hydrocarbons. This stream is a "light hydrocarbon stream" as defined in claim 1 of the Pilot patent.

C. Claim 1's Requirement of Separation "In" a Reflux Condenser Does Not Further Require Flow "Out" of the Condenser into Different Pipes.

Claim 1 requires "separating a reflux stream from the carbon dioxide-lean stream **in** a reflux condenser." Oxy admits that its plant has such a reflux condenser, and that this device "changes the phase" of part of what flows into it: from a gas to a liquid. But because the liquid and gas flow out of the reflux condenser "in a single pipe," rather than in two different pipes, Oxy argues that its plant does not perform this step. Oxy Response at 14. We disagree.

The two different outlet pipes that Oxy perceives as necessary to satisfy the claim are not in the reflux condenser: they are outside of it. But the claim requires that the separation occur, not outside the reflux condenser, but "in" it. As long as a separation occurs "in" the reflux condenser, the number of pipes going "out" of it is immaterial.

The separation that occurs in Oxy's reflux condenser is a phase separation: liquid separates from gas. Doc. 57-2 at 5, ¶ 18. Imagine a tea kettle on a stove. As the water "in" it boils, gaseous steam is "separated" from the liquid water. The reverse process occurs here: liquid is separated, or "condensed," from gas. While Oxy argues that "separating" means something beyond a phase separation, nothing in the claim language requires this.

Oxy's position is further undermined by the text of Pilot's patent, which states that a "separator" can be a "phase separator." See Doc. 38-2 at 13, col. 7, l. 21-25 ("Alternatively, one or more of the separators 106, 108, 120, 134 may be a phase separator. A phase separator is a vessel that separates an inlet stream into a substantially vapor stream and a substantially liquid stream, such as a knock-out drum or a flash drum”). See *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1380 (Fed. Cir. 2009) (definition of term in patent specification controls).

The Pilot patent offers no basis for concluding that phase separation is not “separating.” Indeed, given claim 1’s further requirement that “separating” must occur while “in” the reflux condenser, rather than elsewhere, it is difficult to conceive of what else the term might cover. Because a phase separation occurs in the reflux condenser of Oxy’s plant, the “separating” element is satisfied.

D. Oxy Does Not Avoid the Cooling Step by Using Multiple Cooling Streams.

Claim 1 requires “cooling the light hydrocarbon stream using at least a portion of the carbon dioxide-lean stream.” Oxy’s expert admits that what we have identified as the light hydrocarbon stream (“incoming feed stream”) is indeed cooled by what we have identified as the carbon dioxide-lean stream (stream 14). Doc. 57-2 at 5, ¶ 21 (“provide a cooling function”). However, Oxy contends that it avoids infringement because it uses three streams, rather than just one, to do the cooling. Oxy Response at 15-16. We disagree.

"The addition of features does not avoid infringement, if all the elements of the patent claims have been adopted." *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 945 (Fed. Cir. 1990). Here, the claim requires cooling of the light hydrocarbon stream by at least a portion of the carbon dioxide-lean stream. It is undisputed that the carbon dioxide-lean stream “provide[s] a cooling function” here. Supplementing the carbon dioxide-lean stream with two other cooling streams is merely an “addition of features” that does not avoid infringement.

As a fallback position, Oxy argues that, even if it literally infringes the cooling step, it is not liable for infringement under the reverse doctrine of equivalents. Oxy Response at 17. A defendant asserting this doctrine bears the burden of establishing it. The doctrine is "rarely applied," and the Federal Circuit has never once, in its 35-year history, upheld its application. See *Roche Palo Alto LLC v. Apotex, Inc.*, 531 F.3d 1372, 1377-78 (Fed. Cir. 2008). Oxy provides the Court with no reason to believe that this case will change that pattern.

Oxy argues that single-stream cooling is the "principle" of Pilot's patent, and that its own multiple-stream system is so radically different as to actuate the doctrine. Oxy Response at 17. But Oxy's "principle" is wrong: nothing in the language of claim 1, or in the rest of the patent, limits that claim to a single cooling stream. For example, the patent itemizes various possible uses for the carbon dioxide-rich stream, but never rules out its use for cooling. Doc. 38-2 at 6, col. 5, l. 49-51 ("may be … used for other purposes"). Oxy's plant involves no "change in principle" that would establish the reverse doctrine of equivalents.

Oxy's plant performs the cooling step required by claim 1.

E. Claim 1 Is Not Inconsistent With Its Dependent Claims.

In its response, Oxy identifies the preceding section of its claim 1 argument as its "final" one. See Oxy Response at 15 ("Finally, …"). But it then offers one more argument as an apparent afterthought. It contends that claim 1 is inconsistent with claims 5 and 10, and that this precludes the finding of a carbon dioxide-lean stream. Oxy Response at 18-19. We disagree.

Inconsistency between claims may be a ground for patent invalidity, if it renders a claim indefinite. See 35 U.S.C. § 112(b). But such inconsistency does not preclude a finding of infringement. Here, Oxy does not dispute, as a factual matter, that it processes a carbon dioxide-lean stream in its plant, as required by claim 1. Whether that claim is consistent with other claims in the patent is an issue of validity. The motion here is limited to the issue of infringement, and Oxy's invalidity argument is premature. See *Commil USA, LLC v. Cisco Systems, Inc.*, 575 U.S. -—, 135 S.Ct. 1920, 1928 (2015) ("When infringement is the issue, the validity of the patent is not the question to be confronted").

In any event, the claims are not inconsistent. Claim 1 requires use of "at least a portion" of the light hydrocarbon stream for cooling. Claim 5, on the other hand, addresses changing the temperature of "the carbon dioxide-lean stream": the entire stream, rather than "at least a portion" of it. Claim 10 is the same. Because the independent claim defines a different measure of the relevant stream than do the dependent claims, those claims are not inconsistent.

F. Oxy's Plant Processes the Hydrocarbon Feed Stream Required by Claim 33.

Oxy next argues that, if the Court agrees with Pilot as to claim 1, then claim 33 cannot be infringed. Oxy Response at 19-20. We disagree.

In essence, Oxy's complaint is that Pilot has designated a different stream as the "hydrocarbon feed stream" for purposes of claim 33 than it did for purposes of claim 1. But Pilot has every right to do this, because the two claims define different inventions. See *Wenger Manufacturing, Inc. v. Coating Machinery Systems, Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001) ("each claim in a patent is presumptively different in scope"). The fact that Pilot has selected different streams to accuse as infringing with regard to different claims does not mean that the claims are inconsistent. It means only that they are different. Oxy's argument confuses the meaning of a claim with the thing accused of infringing it.

The term "hydrocarbon feed stream" means the same thing in each of claims 1 and 33: a stream containing hydrocarbons that is fed into something. Oxy's plant has several streams that might be designated a "hydrocarbon feed stream." As the plaintiff and patent owner, it is Pilot, not Oxy, who is entitled to select which of the streams will be accused as infringing. For purposes of evaluating infringement of claim 33, there is no requirement that Pilot accuse the same stream identified with regard to claim 1, or any other stream that Oxy might prefer to argue about. Oxy has cited no authority otherwise.

Finally, Oxy asserts that the inventor, Mr. Prim "could not explain why the patent uses three different words to refer to what he now asserts is the same concept," and that his testimony "renders Claim 33 incomprehensible." Oxy Response at 20. While we disagree with the meaning and import of these supposed admissions, there is no need to decide that issue now: the Federal Circuit has ruled that such inventor testimony is irrelevant. See *Howmedica Osteonics Corp. v. Wright Medical Technology, Inc.*, 540 F.3d 1337, 1347 (Fed. Cir. 2008) ("We hold that inventor testimony as to the inventor's subjective intent is irrelevant to the issue of claim construction"). To the extent that Oxy is arguing patent invalidity, that issue is premature.

Oxy does not dispute that a stream with hydrocarbons, specifically methane, is fed into the demethanizer (also called a distillation column) in Oxy's plant. That stream thus qualifies as the hydrocarbon feed stream required by claim 33.

Respectfully submitted,

_/s/Gary S. Peterson_______________________________

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